исследуемых проб она была ниже предела обнаружения. По показателю жесткости воды превышение ПДК было обнаружено в 14% проанализированных проб, однако превышение ПДК было незначительным, максимум на 17%.

STUDY OF PHASE EQUILIBRIUM IN SPLITTING SYSTEMS INVOLVING ETHYL PROPIONATE

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Experimental data on liquid–liquid equilibrium (LLE) for the quaternary system propionic acid – ethyl alcohol – ethyl propionate – water and ternary sub-systems were obtained at 20 °C and at atmospheric pressure. The LLE investigated by gas chromatographic method analysis.

Ethyl propionate is an indispensable and frequently used substance in production. It is most widely used as the main component in insect control products, used in the manufacture of artificial leather, it produces various solvents for plastics, cellulose, fat and wax, and also this ester is popular in the perfume industry. Due to the extensive use and demand of this ether, it is necessary to know about the processes and methods of its production.

In the development of the technology of production of ethyl propionate an important place is occupied by the purification of the substance on distillation columns or by extraction. To create the most effective purification method, knowledge of its physicochemical properties such as phase equilibrium is necessary.

In this paper, the liquid–liquid phase equilibrium of the propionic acid – ethanol – ethyl propionate – water system at 20 °C was examined using gas chromatography.

During the work, experimental data on liquid–liquid equilibrium at 20 °C were obtained in two ternary systems (propionic acid – ethyl propionate – water and ethanol – ethyl propionate – water) and five quaternary systems (propionic acid – ethyl alcohol – ethyl propionate – water) with the corresponding ratios of the concentrations of propionic acid and ethyl alcohol in the mixture (1: 1, 1: 2, 1: 3, 2: 1, 3: 1). Combining experimental data on phase equilibrium in ternary and quaternary systems allowed us to represent the delamination surface in a concentration tetrahedron.

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